

REMARKS

Applicants respectfully request reconsideration and withdrawal of the outstanding Office Action rejections based on the following remarks.

Claim Amendments

Claims 15 and 28 have been amended to require that the wall material be water-insoluble. Written description support for these amendments is found at least at page 2, line 33 of the specification.

New claims 30 and 31 have been added. Written description support for these claims can be found at least in claims 15 and 28, and additionally at page 2, lines 1-42 of the specification.

Claim Rejections Under 35 U.S.C. § 103(a)

Claims 15, 17-20, 22, 23 and 26-29 are pending in the application. The Examiner has rejected all of the pending claims under 35 U.S.C. § 103(a) as being unpatentable over van Koppenhagen et al (WO 00/05951) in view of Martin (EP 0 279 068) and further in view of Benoff (US Pat. No. 5,705,174). van Koppenhagen teaches an aqueous composition comprising pesticides which control weed growth. Martin teaches oil-in-water emulsion compositions comprising pendimethalin. Benoff is directed to a process for the preparation of microcapsule compositions.

The Examiner argues that van Koppenhagen teaches all of the elements of independent claims 15 and 28, except the use of pendimethalin as the herbicide, the microencapsulation of pedimethalin using polyurea or polyurethane, the anionic oligomers or polymers, the boron containing compound and the specific ratio of microencapsulated pendimethalin to non-encapsulated pendimethalin. However, the Examiner argues that Martin teaches that pendimathalin is an herbicide, and that Benoff teaches that pendimethalin can be encapsulated in polyurea or polyurethane. He argues further that the remaining claim elements would be obvious to one of skill in the art from the teachings of van Koppenhagen. The Examiner argues further that one of skill in the art would be motivated to make a formulation containing a mixture of encapsulated and non-encapsulated active ingredient because that would result in a product with both immediate release and extended release characteristics.

First, in independent claims 15 and 28, Applicants note again that the Examiner concedes that the cited references do not disclose the claim element of the microencapsulation of pedimethalin using polyurea or polyurethane. This, however, is a significant feature which differs in the claimed invention and the teachings of the prior art. It is an essential feature of van Koppenhagen's microcapsules that the polymeric wall material contains a base sensitive unit that triggers releases of the encapsulated contents on exposure of the capsules to basic conditions (see page 1, first paragraph, page 3, summary of the invention, 2nd paragraph and page 4, detailed description of the invention, 1st paragraph). From page 23 it becomes clear that the polymeric wall in van Koppenhagen's microcapsules can be cleaved by a base under mild (physiological) conditions, namely at pH 8-10, which is the pH in the insect's gut. On page 23, where it

is stated that “the capsules of this invention have particular utility in control of insects which have an alkaline environment in their gut” and “to be efficacious for this purpose, the capsules of this invention must include a cross-linking agent which on contact with a base at a pH of about 8-10 will cause complete or near complete release of the encapsulated insecticidal contents within four hours or less.”

In contrast thereto, the polyamide or polyurea wall material in the microcapsules of the present invention is water-insoluble and cannot be cleaved by the action of a base. Applicants disagree with the Examiner’s arguments. However, solely in the interest of expediting prosecution, Applicants have amended claims 15 and 28, to require that the wall material be water-insoluble. Written description support for these amendments is discussed above.

This same discussion applies to the microcapsules of Benoff, which are likewise not cleavable by alkali, but which are water-insoluble and not capable of being triggered by a base. Thus, one of skill in the art would not combine the teachings of Benoff with the teachings of van Koppenhagen to arrive at the currently amended subject matter of claims 15 and 28.

Furthermore, the Examiner contends that it would have been advantageous to make composition comprising a material where a portion of material is encapsulated and the other portion is non-encapsulated. He argues that one would have been motivated to do this in order to make a composition that would have both control and immediate release of the active. However, this argument is based on hindsight and no motivation in the prior art can be found to do so. Rather, one of skill in the art would

have had to expect that including non-encapsulated material in the composition would destabilize the composition, because the non-encapsulated material might crystallize.

As discussed above, the polymeric wall material of the present claims differs from the material disclosed in the prior art which at least renders the present claims non-obvious. In addition, one of skill in the art would not have been motivated create a composition wherein encapsulated and non-encapsulated materials are combined. As such, the rejection of the present claims should be withdrawn.

In view of the foregoing remarks and amendments, Applicants respectfully request withdrawal of the outstanding Office Action rejection. Early and favorable action is awaited. The Director is authorized to charge any fees or overpayment to Deposit Account No. 02-2135.

Respectfully submitted,

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